

1 INTRODUCTION

On behalf of the Sierra Army Depot (SIAD), ARCADIS has prepared this *Three Sites Remedial Design/Remedial Action (RD/RA) and Post Monitoring Maintenance Plan (RD/RA Plan)* to describe the final remedial activities for three areas located within the SIAD in Herlong, California. The U.S. Department of Defense (DOD) developed an Installation Restoration Program (IRP) recognizing the need to identify and remediate sites on DOD property that may have been adversely affected by past activities. As part of the IRP, remedial investigations (RIs) and feasibility studies (FSs) were conducted at the following three sites:

- Old Popping Furnace (OPF) Area
- Upper Burning Ground (UBG) Area
- Equipment Yard (also known as the Building 79) Area

The locations of these three sites are shown on Figure 1.1.

Based on the FS findings, the *Three Sites Record of Decision/Remedial Action Plan* (ROD; ARCADIS, 2005b) was issued in June 2005. The ROD identified the preferred remedial alternative for each of the three areas. The RD/RA activities described in this plan, as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process, will proceed in accordance with the ROD. The State of California (Department of Toxic Substances Control [DTSC] and the Lahontan Regional Water Quality Board [RWQCB]) have approved the ROD and concur with the remedy at each site.

The U.S. Department of the Army (Army) has selected Excavation and Construction of an Onsite Corrective Action Management Unit (CAMU) as the final remedy for lead contaminated soil at the OPF

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Area. This alternative will include (1) ordnance explosives/unexploded ordnance (OE/UXO) and scrap metal removal; (2) excavation of soil exceeding the cleanup levels; (3) consolidation of excavated soil into a CAMU located on the OPF Area; (4) installation of an engineered CAMU cover system composed of a dense graded aggregate (DGA) protective cover layer over a geosynthetic clay liner (GCL); (5) land use controls (LUCs); (6) installation of groundwater monitoring wells; (7) long-term groundwater monitoring; and (8) 5-year site reviews.

At the UBG Area, the selected remedial alternative for lead contaminated soil includes OE/UXO Clearance and Removal, Excavation, Disposal in an Onsite CAMU, and Metal Recycling or Disposal. Remedial actions at this area will include (1) OE/UXO clearance of the Open Trenches and Ash Pile and the Southern Extension, (2) removal of scrap metal and OE/UXO from Hansen's Hole, (3) excavation of soil exceeding the cleanup levels from the Open Trenches and Ash Pile and the Southern Extension and separation of metal debris from the soil, (4) designation of a portion of Hansen's Hole as a CAMU, and excavation of soil exceeding the cleanup levels from the area outside of the CAMU and separation of metal debris from the soil, (5) placement of excavated soil into the designated CAMU, (6) construction of the CAMU cover system, (7) regrading for surface water management, (8) LUCs, (9) installation and monitoring of CAMU groundwater monitoring wells, and (10) 5-year site reviews.

In accordance with the CAMU alternative design provisions, the CAMU designs do not include a base liner, leachate collection system or treatment of the soil exceeding the cleanup goals due to the arid climate, immobility of the constituents, and distance to groundwater. The engineered final cover as the primary waste containment feature of the CAMU units, together with the site and waste characteristics, will prevent the migration of hazardous constituents in groundwater or surface water at least as effectively as a liner and leachate collection system.

The selected alternative for pesticide contaminated soil at the Equipment Yard Area is Excavation and Offsite Disposal in a Hazardous Waste Landfill. The Equipment Yard remedial action (RA) consists of the following major components: (1) excavation of soil exceeding cleanup levels; (2) transportation and disposal at an off-site Resource Conservation and Recovery Act (RCRA) Subtitle C-permitted landfill; (3) backfill and restoration. Groundwater monitoring will not be performed for this alternative because pesticides have not migrated into the groundwater and soil containing pesticides and metals concentrations that exceed the cleanup levels would be excavated and removed. Groundwater underlying the Equipment Yard has been impacted by chlorinated solvents (trichloroethene [TCE]) from another source(s) and will be addressed as part of the Abandoned Landfill and Southern Sites Area (ALF/SSA) investigation. Because the selected remedy allows soil containing arsenic and pesticide concentrations above levels that allow for unlimited use and unrestricted exposure to remain onsite, LUCs to restrict future land use will be implemented and 5-year site reviews will be conducted after initiation of remedial action.

This RD/RA Plan presents the findings of previous investigations and the final RA to be implemented at each of the three areas. This document also provides the associated schedule, health and safety, quality, and other required documentation. All work performed by ARCADIS for SIAD is being conducted under the Guaranteed Fixed Price Remediation (GFPR) Performance Based Contract DABJ 01-03-F-1058.

1.1 Sierra Army Depot Site Description

SIAD is located in the Honey Lake Valley of Lassen County, California, approximately 4 miles west of the California-Nevada state border and 3 miles north of U.S. Highway 395 at the Sage Flats turnoff (Figure 1.1). The two largest communities near SIAD are Susanville, California (county seat of Lassen County, 40 miles northwest of SIAD), and Reno, Nevada (55 miles southeast of SIAD). Two neighboring communities in California are Herlong, located near the southern entrance to the Main Depot, and Doyle, 8 miles south of SIAD's Main Depot.